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ABSTRACT

Recent research has indicated that a learning setting's "psychological environment" can make a difference in student achievement and motivation. This has been found to be true in the case of smaller learning settings, such as the classroom. Recently, research on school culture has suggested that schools do indeed differ in the kind of learning environment they provide. The present paper advances this research one step further. An extensive study of school achievement (in conjunction with a statewide assessment program) involving over 16,000 students in 820 Illinois schools was conducted. Primary variables considered in this report are the school's psychological environment or "culture," student ethnic background, and motivation. Results showed that school culture was more important for minority than white students, so far as facilitating motivation was concerned, and that one school environment may not fit all equally well. Whereas a stress on accomplishment is likely to be important to Whites, Asian students seem especially susceptible to isolation and could benefit from a collegial school environment. If these results are valid, educators are faced with the problem of creating different school cultures within the same general school context. More research is needed on school culture influences. (21 references) (Author/MLH)

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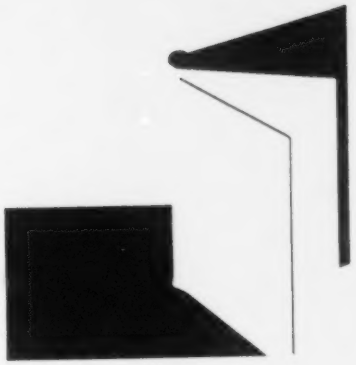

"School Culture," Student Ethnicity, and Motivation

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The National Center for School Leadership

Project Report

University of Illinois at Urbana-Champaign

University High Laboratory School

In collaboration with

The University of Michigan

MetriTech, Inc.

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"School Culture," Student Ethnicity, and Motivation

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Abstract

Recent research on motivation and achievement has indicated that the "psychological environment" of the learning setting can make a difference in the motivation and achievement of students. This has been found to be true in the case of smaller learning settings, such as the classroom. Recently, however, research on the school as a whole, on its "culture," has suggested that schools do indeed differ in the kind of learning environment they provide. The present study takes this point at least one step further. An extensive study of school achievement conducted in association with a state-wide assessment program, involving over 16,000 students in 820, schools was conducted. Primary variables considered in this report are the psychological environment of the school or "school culture," student ethnic background, and motivation. It was found that (a) "school culture" was more important for minority than white students, so far as facilitating motivation was concerned, and (b) that one school environment may not fit all equally well.

"School Culture," Student Ethnicity, and Motivation

The present research builds on two somewhat dissimilar, but perhaps complementary, research traditions. In the last decade or so, a plethora of studies has alluded to and occasionally demonstrated the differential character of schools. In the first place, some schools have been found to be more effective than others. With that, effective schools research is common, at times, taking on the characteristic of a "movement." In explaining why certain schools are more effective than others, a number of possibilities have been put forward. Among them is the possibility that some schools simply manage better to elicit the best efforts of staff and students. That is, motivation is viewed as a critical variable (cf. e.g., Lee & Bryk, 1989) although the nature and source of motivation within an organization are seldom fully explicated.

From a different perspective, research on motivation and achievement has been increasingly directed toward the question of how "psychological

environments" affect motivation (Maehr & Ames, 1989). Such research has focused in a special way on the psychological environments present within learning settings. Thus, Carole Ames and her colleagues (Ames, 1987, Ames & Archer, 1987, 1988; Ames, Archer, Fisher, Hall, & Maehr 1989), have conceptualized the classroom in terms of stresses on certain learning goals. As children perceive differential degrees of stress on, for example, mastery goals, their motivation and learning practices have been found to change in significant ways. Presumably, these perceptions are not only affected by what happens in classrooms but have been shown to be changeable as classroom management practices change. Conceivably, what has been shown to happen in the classroom could happen on a larger scale in the school as a whole. That is, perhaps the school may also be appropriately conceptualized as a psychological environment, and perceptions that students hold in reference to this organizational entity might likewise relate to motivation and achievement patterns. Indeed, in an earlier study (Maehr & Fyans, 1989, 1990),

this possibility was raised and put to a preliminary test.

In this earlier study, strong evidence for the existence of a causal chain leading from "school culture" through motivation to achievement was revealed in the case of 6th-, 8th-, and 10th-grade students. Thus, the Maehr-Fyans study established an argument for the importance of school culture as an antecedent to motivation and academic achievement. The present study is a follow-up, a companion piece, to this earlier study by Fyans and Maehr. It explores how sociocultural background may interact with the perceived culture of the school to influence student motivation and achievement. From time to time, it has been suggested that different learning environments will be differentially effective with students of different sociocultural background. In contrast, it is also proposed that there is one best school culture for all (see Baden & Maehr, 1986, for a review of the relevant literature). Yet, there is precious little evidence to support either position. The present study is designed

to contribute to an alleviation of this state of affairs.

The purpose of this study was to determine whether, and, if so, how school culture stresses may impact children of diverse sociocultural backgrounds at different age/grade levels. Since Maehr and Fyans (1990) found that motivation mediates the influence of school culture on achievement, the present study concentrates on student motivation as the dependent variable.

Methods

In order to address the issues posed, the authors exploited a large data set established by the Illinois State Board of Education in conjunction with its statewide assessment program. In the 1980s the Illinois State Board of Education decided to study a wide range of factors possibly associated with student achievement. A specific concern of this study was the relationship of school characteristics to student motivation and achievement. To this end, the authors designed a data-gathering plan to survey personal and contextual factors

that might relate to student achievement. This inventory included a focus on school culture, student motivation, and achievement. Items commonly used in the study of student motivation and achievement were employed. Items on school culture were adapted from recent research on organizational culture. Thus, a large data set was available to consider the relationships of school and student characteristics to motivation and achievement. Following is a more detailed description of the variables specifically considered in this study.

Subjects/Sample

The sample consisted of 16,310 4th-, 6th-, 8th-, and 10th-grade students, representative of students enrolled in Illinois public schools. These students were drawn from 820 public schools. All data were gathered in conjunction with the state-wide school and student achievement assessment program.

Variables Assessed

Generally, the relation of school culture and motivation was considered at four different grade levels for students of different backgrounds.

School culture. Survey items were adapted from previous research on organizational culture (Maehr, 1987; Maehr & Braskamp, 1986). These items are designed to assess the student perceptions of school goal stresses along five dimensions. These dimensions and item examples are presented in Table 1 and described and discussed in detail elsewhere (Krug, 1989; Maehr & Fyans, 1989, 1990). The student perceptions of school goal emphases were treated as individual difference variables, an index of the unique psychological environment existing for each student (Maehr & Fyans, 1989, 1990). This choice reflects a theoretical orientation (cf. Maehr & Fyans, 1989). However, psychometric research on these items, conducted by Krug (1989), revealed generalizability coefficients indicating that treating culture as an aggregate or group variable is not only possible but yields similar results.

Table 1

Dimensions of School "Psychological Environment" Assessed

Accomplishment

Emphasis on excellence and pursuit of academic challenges.

Item Example: This school makes me like to learn.

Power

Emphasis on interpersonal competition, socially comparative achievement.

Item Example: At this school, it is very important to get good grades.

Recognition

Emphasis on social recognition for achievement.

Item Example: This school gives recognition for good performance.

Affiliation

Perceived sense of community, good interpersonal relations among teachers and students.

Item Example: Teachers at this school treat students with respect.

Overall Saliency of the Psychological Environment

The perception that the school stresses certain purposes and goals.

Item Example: Every student in this school knows what it stands for.

Motivation. Motivation was measured through a 12-item scale (see Table 2). This scale was comprised of items adapted from questionnaires regularly employed to assess attributions of success and failure, sense of competence, test anxiety, perceived value of education, expectations of success, and continuing motivation. These items have not only been employed in a large number of studies appearing through the literature, but they had also been subjected to extensive item analysis and tests of appropriate scaling. A more detailed

description of the characteristics and psychometric properties of the scale, including validity data, is to be found elsewhere (Fyans, 1983; Fyans & Stenzel, 1981; Maehr, 1989; Maehr & Fyans, 1989, 1990). Briefly summarized, the item intercorrelation was substantial. Further, an unweighted least squares factor analysis with the reference vectors derived from a Promax oblique rotation, suggested that motivation as assessed here could appropriately be treated as a single dimension. All the motivation items loaded on one factor, and this one factor accounted for 92% of the variation in student responses. Thus, in conducting further analyses, the responses of each student to the motivation items were aggregated to obtain a total motivation score for each student.

Table 2

Description of Motivation Scale

Item Number		Factor Loading
1	Expectation of Success (What percentage of multiple choice test questions do you	.50

	expect to answer correctly on this whole test?)	
2	Attainment Value (How important is it for you to do well on this test?)	.31
3	Attribution of Success (ability, effort, luck, and task) (When I perform well on an assignment in school, it is because···)	.30
4	Minimal Acceptable Standard (What is the lowest percentage of test questions you could get correct on this whole test and still be satisfied with your performance?)	.38
5	Perceived Effort (Compared to other students, how hard do you work at school?)	.45

Item Number		Factor Loading
6	Continuing Motivation (If you have 5 minutes of free time during this test, either to sit or work on additional test questions for fun, how many test questions would you attempt?)	.39
7	Homework Effort (On the average, how many hours do you spend each evening on homework?)	.29
	Future Academic Plans: (I plan to study each subject this number of years...)	
8	English	.53
9	Mathematics	.66
10	Natural Science	.68
11	Foreign Language	.55
12	Social Science	.50

Note: Items 1, 2, 4, and 6 relate specifically to the task at hand. The remaining items relate to school achievement generally.

Student ethnicity. Indications of student ethnicity were obtained through self-reporting procedures in which students were asked to identify themselves within one of four categories: White, Black, Hispanic, or Asian. It should be noted that indicators of students' SES (parental education) were also obtained and were controlled statistically in the analyses to view the special effects of ethnicity.

Results

In order to determine the differential influence of school culture in the case of different ethnic groups, separate multiple regressions were conducted for each of the ethnic groups. The results of these analyses are summarized in Table 3 and portrayed graphically in Figures 1, 2, and 3. Note that accepted procedures for analyzing relationships along multiple dimensions within a hierarchical framework were employed (Beaton, 1969; Cohen & Cohen, 1983; Fyans, 1983; Kerlinger, 1973; Pedhazur, 1982).

In presenting the results, we will focus especially on two distinguishable issues. First, consideration

will be given to the amount of variance in motivation explained by school culture for each of the ethnic groups. Second, we will consider how results specific to each of the dimensions of school culture scale affect students in the four ethnic groups differently. In each case, results will be considered at the four different grade levels for the purpose of considering developmental trends suggested by the data.

Table 3

School Culture and Motivation

Summary of Multiple Regression Results: Dimensions of School Culture Across Four Grade Levels

	4th grade	6th grade	8th grade	10th grade
Accomplishment	.16*	.18	.24	.31
Power	.07	.09	.10	.08
Recognition	.05	.09	.08	.14
Affiliation	-.002	.03	.01	.06
Saliency	.09	.08	.08	.004
	R^2=7%	R^2=11%	R^2=14%	R^2=21%

*Standardized beta weights

The Overall Role of School Culture

Considering, first of all, the question of whether school culture may be differentially important for students of different ethnic background, several summary observations of the data can be made. Figure 1 presents a portrayal of the differential influence of school culture in the four ethnic groups at successive age levels. Specifically graphed there is the motivation variance explained (R^2) for each ethnic group at each grade level. The graph highlights several features of the results. First, school culture appears to have its greatest effects in explaining motivation at Grade 10 for all ethnic groups. Second, considering the 10th grade only, school culture is more important for Asians, Hispanics, and Blacks (in that order) than it is for Whites. It may be noted that at earlier grade levels, school culture is associated with motivation, but not as strongly. Focusing especially on the portrayal in Figure 1, the abrupt change in the importance of the school culture at the 10th grade is especially striking. There, one can also easily see the differing results for ethnic groups. While the influence is most striking at

the 10th-grade level, there is evidence that school culture is related to student motivation at earlier levels as well. However, the differential degree of influence on the four ethnic groups, particularly as this varies at successive grade levels, is not readily explained.

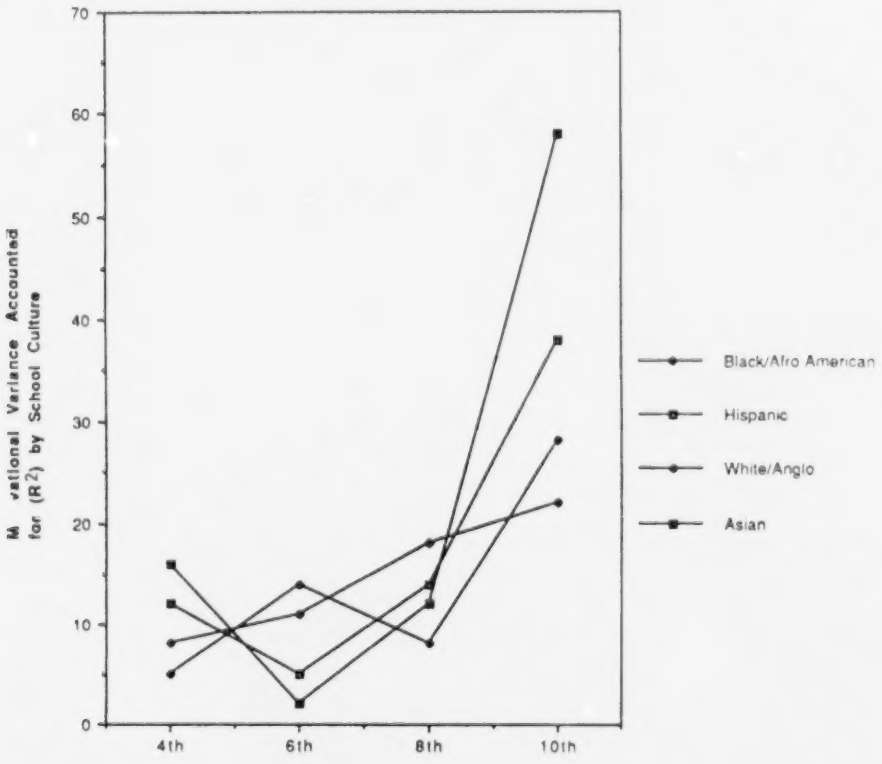

Figure 1. Motivational Variance Accounted for (R^2) by "School Culture" at Successive Grade Levels

Dimensions of School Culture

Regarding the question of the importance of the five dimensions for the four different ethnic groups, the findings in this regard are likewise summarized in Table 2, but it is the portrayal in Figure 2 that may be most instructive. Viewing Figure 2, one may note that a stress on Accomplishment is apparently increasingly important for Whites--but not for the other ethnic groups. Recognition is generally of increasing importance to Asian students, a trend not clearly evident in the other ethnic groups. Focusing on the results in the case of Saliency (Figure 3), it may be noted that, except for Hispanics, the importance of Saliency tends to decrease with grade level.

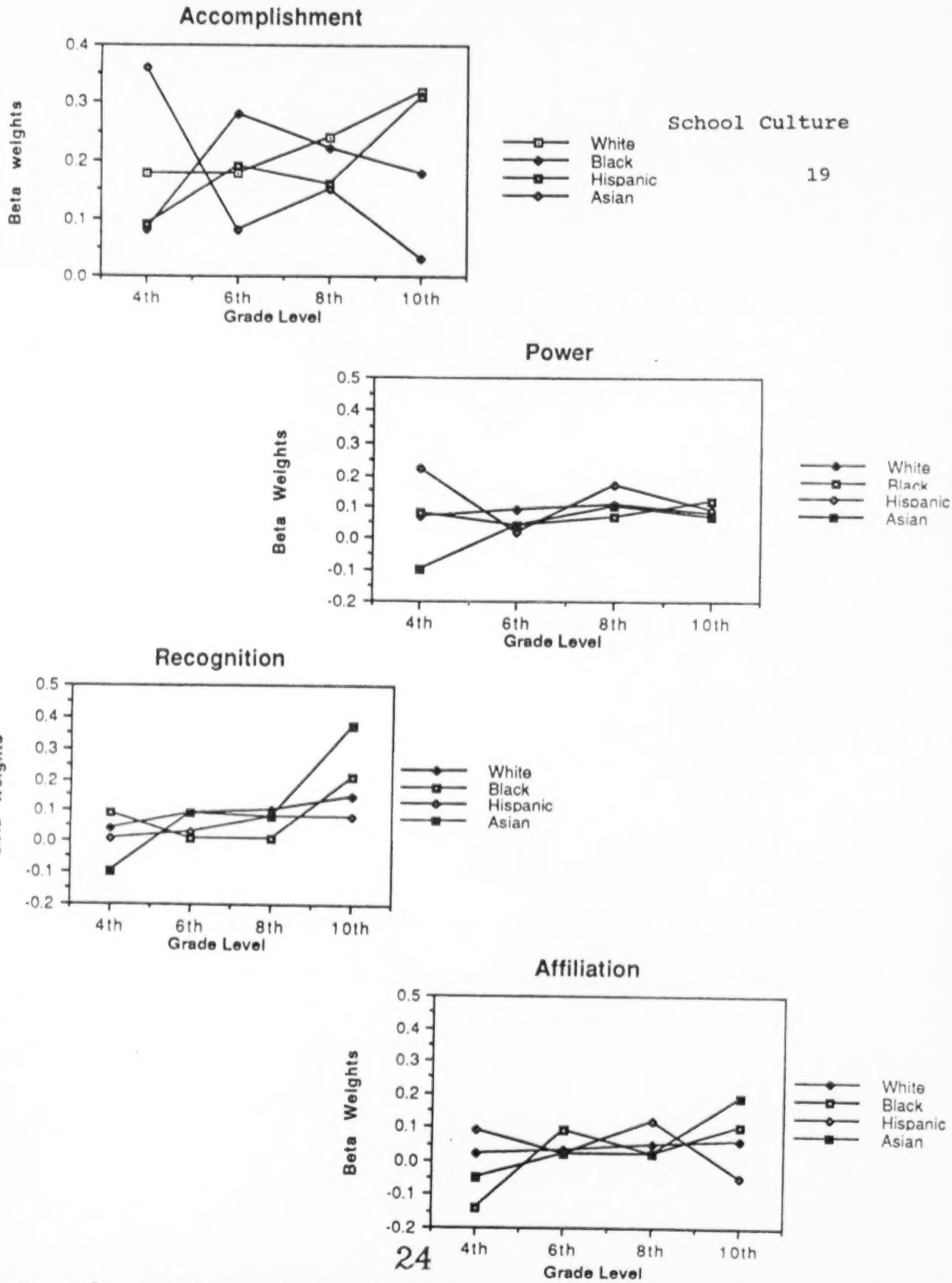

Figure 2. Contribution (Standardized Beta Weights) of Accomplishment, Power, Recognition and Affiliation "School Culture" Dimensions at Successive

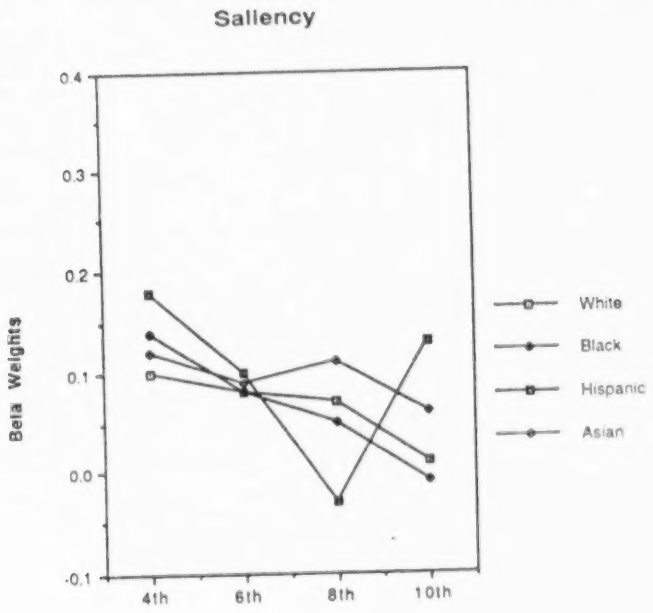

Figure 3. Contribution (Standardized Beta Weights) of Saliency "School Culture" Dimension at Successive Grade Levels.

Discussion

The present study grows out of a conceptual framework that suggests that schools vary in character and that this variation makes a difference in the motivation and achievement of students. Previous research has suggested not only how the psychological environment of schools may vary but also provided evidence on how this variation may influence motivation and achievement. The present results add another dimension to this program of research, and a provocative

one at that. Examined here is the interaction of student ethnicity with school culture in explaining motivational variance. Results indicate variation in the school culture-motivation relationship with ethnicity.

First, the school's quality as a psychological environment may be differentially important for children of different backgrounds. In a previous paper (Maehr & Fyans, 1989), it was shown that school culture was related in an apparently causal fashion to motivation, which in turn was related to school achievement. The results of the present study add an important piece or two of information to this overall finding: school culture may be differentially important for the motivation of children of different ethnic backgrounds. In particular, it seems that the motivation of non-white ethnic groups is likely to be most (positively and negatively affected) by school culture.

That school culture is likely to be important for children of non-white ethnic background is especially intriguing. Certainly, one might surmise that the school plays a certain function in creating a common

core culture, for good or for ill, bringing minorities into the so-called mainstream. But that is not really the point of these results. The overall quality of the school culture is seen here to relate to indices of student motivation for achievement. The bottom line is that schools have a potential for good or ill, which is especially crucial for minority children, whose motivation for achievement is likely to be especially susceptible to the influence of the school. That potential, according to these results, seems to reside at least in part in the kind of psychological environment that is associated with the school.

The results add yet another possible insight to the growing picture of school culture influences in the case of different ethnic groups. Different school culture profiles appear to be more influential for different culture groups. Thus, variation in stresses in school environment is likely to have different effects, dependent on ethnic group membership. The clarity of the differential influence is perhaps most evident at the 10th-grade level, but variations at other levels are evident as well. In particular, one might single out

one aspect of these findings as bordering on the provocative: the finding that a stress on Accomplishment is most likely, overall, to be important for Whites. Recall that the Accomplishment dimension presumably taps an emphasis on learning as an interesting and challenging endeavor, worthy in its own right. It is also interesting to note the relative importance of Recognition and Affiliation for Asian students. Perhaps Asian students are especially susceptible to isolation within school settings and therefore benefit particularly from a school environment which is collegial (Affiliation dimension) and makes a point of recognizing individuals. Perhaps greater stress on group cohesiveness in the cultural background and family life (Caplan, Whitmore, & Choy, 1989) may combine to make school culture emphases on Recognition and Affiliation especially salient so far as enhancing motivation in the school context. Whatever, the importance of Recognition and Affiliation for Asian students is clear--and of considerable interest.

These results may prompt many questions. First of all, it is difficult to fully understand why school

culture interacted with student ethnicity the way it did. The findings, while intuitively plausible to some degree, are somewhat novel in nature. Indeed, before we push too far for interpretation, these results ought to be replicated. But if the finding persists that there is no one best culture for all children irrespective of ethnic background, we are presented with a most difficult situation so far as the practical affairs of schooling are concerned. How does one create different cultures within the same general school context? Be that as it may, these are the results and they demand further consideration.

In conclusion, it is well to reiterate a repeated theme of this paper. The results are interesting. For that reason and because of the size of the sample, among other reasons, they deserve attention in subsequent discussion and research. These findings cannot, of course, be considered the final word on school culture, ethnicity, and student motivation. They are a provocative first word, a first word which should prompt questions and further research. The kind of methods employed should yield to more focused analyses as well

as to varied research designs and methods. Certainly, additional and expanded consideration of the nature of such key constructs as school culture (see Midgley & Maehr, manuscript in preparation) and motivation (Maehr & Braskamp, 1986) is in order. And why should different groups respond in this way to different school cultures--if that turns out to be a replicable finding? If the finding persists that there is no one best culture for children of different ethnic backgrounds, what does that mean for theory as well as for practice? In short, we leave this study with a new set of questions for further exploration and analysis.

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